separation requirements of Sections 73.610 and 73.698 of the Commission's Rules without the imposition of a site restriction. The coordinates for Channel 44 at Sioux City are 42–29–30 and 96–23–30. The allotment at Sioux City is not affected by the temporary freeze on new television allotments in certain metropolitan areas. With this action, this proceeding is terminated.

EFFECTIVE DATE: January 23, 1995.

FOR FURTHER INFORMATION CONTACT: Pam Blumenthal, Mass Media Bureau, (202) 634–6530.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's Report and Order, MM Docket No. 94–38, adopted November 29, 1994, and released December 8, 1994. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Reference Center (Room 239), 1919 M Street, NW, Washington, D.C. The complete text of this decision may also be purchased from the Commission's copy contractor, ITS, Inc., (202) 857–3800, 2100 M Street, NW, Suite 140, Washington, D.C. 20037.

List of Subjects in 47 CFR Part 73

Television broadcasting.

PART 73—[AMENDED]

1. The authority citation for Part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303.

§ 73.202 [Amended]

2. Section 73.606(b), the Table of TV Allotments under Iowa, is amended by adding Channel 44 at Sioux City.

Federal Communications Commission.

John A. Karousos,

Acting Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.

[FR Doc. 94–30699 Filed 12–14–94; 8:45 am]

BILLING CODE 6712-01-M

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AB73

249-94

Endangered and Threatened Wildlife and Plants; Endangered or Threatened Status for Five Plants and the Morro Shoulderband Snail From Western San Luis Obispo County, California

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) determines endangered status pursuant to the Endangered Species Act of 1973 (Act), as amended, for four plants and one land snail: *Cirsium fontinale* var. *obispoense* (Chorro Creek bog thistle), *Clarkia speciosa* ssp. *immaculata* (Pismo clarkia), *Eriodictyon altissimum* (Indian Knob mountainbalm), *Suaeda californica* (California sea-blite), and the Morro shoulderband snail (*Helminthoglypta walkeriana*); and threatened status for one plant: *Arctostaphylos morroensis* (Morro manzanita). All six species are found along the coast of San Luis Obispo County, California. The five plant taxa are threatened by one or more of the following: Residential development, road maintenance activities, competition from alien plants, recreational activities, grazing, water diversions, dredging, and stochastic (i.e., random) extinction by virtue of the small and isolated nature of the remaining populations. The Morro shoulderband snail is threatened by destruction of habitat, competition with a common garden snail, and perhaps stochastic extinction. This rule implements the Federal protection and recovery provisions afforded by the Act for these five plants and the Morro shoulderband snail.

EFFECTIVE DATE: January 17, 1995.

ADDRESSES: The complete file for this rule is available for public inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Ventura Field Office, 2140 Eastman Ave., Suite 100, Ventura, California, 93003.

FOR FURTHER INFORMATION CONTACT: Constance Rutherford, botanist, at the above address, or at 805/644–1766.

SUPPLEMENTARY INFORMATION:

Background

Arctostaphylos morroensis, Cirsium fontinale var. *obispoense, Clarkia speciosa* ssp. *immaculata, Eriodictyon altissimum, Suaeda californica*, and the Morro shoulderband snail are endemic to the western portion of San Luis Obispo County, California. *A. morroensis* and *E. altissimum* occur as components of several coastal plant communities, referred to as central coastal scrub, central maritime chaparral, and coast live oak woodland by Holland (1986). *Cirsium fontinale* var. *obispoense* is found primarily on more inland sites, near seeps associated with serpentine soils. *Clarkia speciosa* ssp. *immaculata* is a component of grasslands that form a mosaic with chaparral and oak woodlands. *S. californica* is found in association with the northern coastal salt marsh community (Holland 1986) around Morro Bay. The Morro shoulderband snail is found within the central coastal dune scrub community (Holland 1986) on the south end of Morro Bay These communities have also been described by Holland and Keil (1990), MacDonald (1988), Griffin (1988), Hanes (1988), Barbour and Johnson (1988), and Mooney (1988).

The natural communities of western San Luis Obispo County have undergone a number of changes resulting from both human-caused activities and natural occurrences. The rapid urbanization of communities around Morro Bay, the San Luis Obispo area, and the Pismo Beach area has already eliminated the plants and the snail in portions of their ranges. Starting in the 1940's, the configuration of Morro Bay itself was altered by construction of a breakwater that resulted in the connection of Morro Rock to the mainland north of the Bay, construction of a marina, deposition of sediments from two watersheds (Los Osos Creek and Chorro Creek), and dredging of waterways within the Bay (Gerdes *et al* 1974). Since 1935, the spit that envelops the southern portion of Morro Bay has also been displaced 90 feet landward as a result of windblown sand into the interior of the Bay (Josselyn *et al* 1989) Further urban development and other activities such as recreation, grazing, and utility construction threaten the remaining occurrences of these plants and the snail.

Arctostaphylos morroensis (Morro manzanita) was first described by Wieslander and Schreiber (1939) based on a specimen collected in Hazard Canyon, south of Morro Bay, which is now within the boundaries of Montana de Oro State Park. This name has been conserved by McMinn (1939), Abrams (1944), Munz (1968), and Hoover (1970).

This shrub of the heath family (Ericaceae) reaches 1.5 to 4.0 meters (m) (5 to 13 feet (ft)) high and has oblong to ovate leaves grey-green to olive-green, 2.5 to 4.0 centimeters (cm) (1 to 1.5 inches (in)) long, with petioles 2 to 6 millimeters (mm) (0.08 to 0.20 in) long. The white to pinkish flowers are 5 to 8 mm (0.2 to 0.3 in) long and form orange-brown fruits 8 to 13 mm (0.3 to 0.5 in) in diameter. A. morroensis is distinguished from other manzanitas in the area by the following characters: the bark of the trunk is a shaggy grey to brown, and the leaf blades are cuneate to rounded or truncate at the base, with the lower surface paler and usually somewhat tomentose (short woolly hairs). Occasional specimens of

Arctostaphylos morroensis have exhibited an auriculate leaf base and a leaf petiole short to lacking—characters more representative of the rare *A. cruzensis* (Arroyo de la Cruz manzanita). Recent work by Holland *et al.* (1990) has clarified the distinctness of the taxon and its relation to *A. cruzensis*.

The distribution of *Arctostaphylos morroensis* has been tied to the presence of soils derived from ancient sand dunes. These soils are referred to as Baywood fine sands, which were deposited during the Pleistocene epoch when sea levels 300 feet lower than current levels allowed large volumes of sand to blow inland into the Los Osos Valley. *A. morroensis* is found in association with coastal dune scrub, maritime chaparral, and coast live oak woodland communities in sites with no or low to moderate slopes. On steeper slopes, particularly on the north-facing slopes of the Irish Hills, *A. morroensis* occurs in almost pure stands. At the time the proposal was published (December 23, 1991; 56 FR 66400), the total number of individuals of *A. morroensis* was estimated to be 2,000 (McLeod 1991a). Since that time, additional surveys have resulted in population estimates ranging from 86,000 to 153,000 (McGuire and Morey 1992, LSA Associates 1992).

Based on the distribution of Baywood fine sands in the Morro Bay area, the historic habitat was estimated at between 800 and 1100 hectares (ha) (2,000 and 2,700 acres (ac)). Much of the area covered by Baywood fine sands and with no to low slopes have been subject to urban development, primarily by the communities of Los Osos, Baywood Park, and Cuesta-by-the-Sea on the south and east sides of Morro Bay. Some development, however, has also occurred on the steeper north-facing slopes of the Irish Hills. Approximately 340 to 360 ha (840 to 890 ac) of *Arctostaphylos morroensis* remain (LSA Associates 1992); half of this consists of small or low density patches that remain in and around developed areas of Los Osos and Baywood Park, and half consists of more continuous and more dense (at least 50 percent cover by this species) stands of manzanita. *A. morroensis* was recently observed to be reseeding in parcels that had previously supported high densities of manzanita that had been mechanically cleared (LSA Associates 1992). The process of clearing may have provided the scarification required to trigger seed germination.

Approximately 65 percent of the remaining *Arctostaphylos morroensis* habitat is within private ownership; the bulk of this is habitat with high densities of manzanita. Approximately 35 percent of the plant's habitat is on publicly owned lands within Montana de Oro State Park and two small preserves managed by California Department of Fish and Game (CDFG); most of this habitat supports low densities of *A. morroensis* (McGuire and Morey 1992).

Cirsium fontinale var. *obispoense* (Chorro Creek bog thistle) is one of two rare subspecies of *Cirsium fontinale*, which was first described by Edward L. Greene in 1886 as *Cnicus fontinalis*. Six years later, he transferred the plant to the genus *Carduus*, and, in 1901, Jepson transferred the plant to the genus *Cirsium*. In 1938, J.T. Howell described the variety *obispoense* based on plants collected at Chorro Creek two years earlier (Abrams and Ferris 1960).

Cirsium fontinale var. *obispoense* is a rugged short-lived perennial herb of the aster family (Asteraceae). First year plants form a rosette that reaches up to a meter (3.3 ft) in diameter; in the second or third year, the plant produces a branching stalk up to 2 m (6.6 ft) in height and bearing numerous heads of whitish to pinkish-lavender tinged flowers. Its nodding flower heads and glandular hairs on the leaves separate it from other thistles that occur in the area.

Cirsium fontinale var. *obispoense* is restricted to open seep areas on serpentine soil outcrops. It is known from only nine locations; eight are to the south and west of San Luis Obispo, and one is 48 kilometers (km) (30 miles (mi)) to the northwest near San Simeon. The type locality was surveyed for in 1985; the thistle was not located and is assumed to be extirpated, probably by cattle grazing (Rocco 1981). At the time of the last range-wide surveys in 1986, the total number of individuals numbered less than 3,000 (Friedman 1987). Two populations comprise approximately 1,000 individuals each; the remaining seven comprise from 50 to several hundred individuals each. Extant populations are threatened by trampling from cattle, proposed water diversions, and road maintenance and may also be declining due to several years of drought conditions. A recent status report also indicated that two non-native species, *Cytisus monspessulanus* (European broom) and *Eucalyptus* sp. (Eucalyptus) may be invading bog thistle habitat at several sites (Wikler and Morey 1992).

Eriodictyon altissimum (Indian Knob mountainbalm) was first collected on Indian Knob by Philip V. Wells in 1960 and described two years later (Wells 1962). This diffusely branched evergreen shrub of the waterleaf family (Hydrophyllaceae) reaches a height of 2 to 4 m (6.6 to 13 ft). The sticky leaves are long (6 to 9 cm (2.4 to 3.5 in)) and narrow (2 to 4 mm (0.08 to 0.20 in)); the lavender flowers (1.1 to 1.5 cm (0.4 to 0.6 in) long) are arranged in coiled clusters and produce numerous tiny (0.4 mm (0.02 in) long) seeds. As with other fire-adapted chaparral plants, *E. altissimum* produces new growth primarily from rhizomatous suckers. Only two other narrow-leaved *Eriodictyon* occur in southern California; *E. angustifolium* occurs in the New York Mountains in the eastern Mojave Desert and has much smaller flowers. The other, *E. capitatum*, is restricted to a few locations in coastal Santa Barbara County and has a distinctly capitate inflorescence.

Eriodictyon altissimum occurs within coastal maritime chaparral and oak woodlands and co-occurs with *Arctostaphylos morroensis* in several locations. Vanderwier (1987) did a detailed study of chaparral and oak woodland communities at the type locality for *E. altissimum*. Only six stands are known, which range from the south end of Morro Bay to Indian Knob, between San Luis Obispo and Arroyo Grande. The rugged terrain in the Irish Hills (between Morro Bay and Indian Knob) has precluded extensive botanical surveying that may have identified other stands of *E. altissimum*. With discovery of an extension of the stand at Indian Knob two years ago, the largest known stand comprises 350 individuals (Lynn Dee Oyler, botanical consultant, pers. comm., 1991). Currently, the total number of individuals of *E. altissimum* is less than 600 (Bittman 1985, Lynn Oyler, *in litt.*, 1992).

Clarkia speciosa ssp. *immaculata* (Pismo clarkia), a member of the four o'clock family (Onagraceae), was first collected in Carpenter Canyon by Frank Harlan Lewis and Margaret Ensign Lewis in 1947. Lewis and Lewis (1955) published a monograph on the genus *Clarkia* that described the plant for the first time. The plant is an erect or decumbent herb, with branched stems up to 5 decimeters (dm) (20 in) long; the petals are white or cream-colored at the base, streaking into pinkish or reddish-lavender in the upper part and 1.5 to 2.5 cm (0.6 to 1.0 in) long. It is distinguished from the subspecies *speciosa* by its larger flowers and the pattern of petal color. In his flora of San Luis Obispo County, Hoover (1970) notes the geographical separation between *Clarkia speciosa* ssp. *immaculata* and the subspecies *speciosa*, with the latter occurring north

of San Luis Obispo from the Santa Lucia range to the Salinas River drainage.

Clarkia speciosa ssp. *immaculata* is found on pockets of dry sandy soils, possibly ancient sand dunes, within grassy openings in chaparral and oak woodlands. The five extant populations are located between San Luis Obispo and the Nipomo Mesa area and together support less than 4,000 individuals (Myers 1987; Oyler, *in litt.*, 1992). At least one historical population has been extirpated by residential development, and extant populations are threatened by continuing development, road maintenance activities, and possibly grazing.

Suaeda californica (California sea-blite) is a succulent-leaved perennial plant of the goosefoot family (Chenopodiaceae). It was first described by Sereno Watson in 1874 based on a collection made in the salt marshes of San Francisco Bay. Amos Heller published the name *Dondia californica* in 1898, recognizing the genus name used by Michel Adanson in 1763; however, the name *Suaeda* has been conserved by the International Rules of Nomenclature (Abrams 1944). Munz (1959) recognized several previously recognized taxa as subspecies of *S. californica*. With this treatment, he described the range of *S. californica* as extending from San Francisco Bay south to Lower (Baja) California. Ferren and Whitmore (1983) noted that much of what had been identified as *S. californica* in southern California and Baja California is a distinct taxon, which they named *Suaeda esteroa*. Although both species occur in the upper intertidal zone, *S. californica* is a shrub with radially symmetrical flowers belonging to the section *Limbogermen*, and *S. esteroa* is an herbaceous perennial with bilaterally symmetrical flowers belonging to the section *Heterosperma*. Further study revealed that the only extant populations of *Suaeda* that resemble the type specimen of *S. californica* are those that occur in the vicinity of Morro Bay. In his revision of the genus, Ferren (1993) recognized *S. californica* as a full species.

Suaeda californica occurs along the perimeter of Morro Bay, where it is restricted to the upper intertidal zone within coastal marsh habitat. The shrubs are discontinuously distributed in a narrow band around the Bay adjacent to other marsh plants including *Salicornia* sp. (pickleweed), *Distichlis spicata* (saltgrass), *Juncus acutus* (rush), *Jaumea carnosa* (Jaumea), and *Frankenia salina* (Frankenia) and the federally endangered *Cordylanthus maritimus* ssp. *maritimus* (salt marsh birds-beak). The distribution of *S. californica* around Morro Bay was recently mapped (Hillaker 1992). On the east side of the bay, colonies occur adjacent to the communities of Morro Bay, Baywood Park and Cuesta by-the-sea, though it apparently is absent from the more interior portion of the marshlands that are created by Chorro Creek runoff. On the west side of the bay, *S. californica* is found along most of the length of the spit excepting the northern flank adjacent to the mouth of the bay. Elkhorn Slough in Monterey Bay is the only other remaining location considered to be potential habitat for *S. californica* on the California coast (Dirk Walters, botanical consultant, pers. comm., 1991), but this area has not been recently surveyed.

Suaeda californica's colonial habit make it difficult to determine the total number of individuals comprising the species. One estimate places the number of individuals at no more than 500 (McLeod 1991b). Because the plant occupies such a narrow band in the intertidal zone, *S. californica* is threatened by any natural processes or human activities that alter the microtopographic gradient of this habitat. Such threats include: increased sedimentation of Morro Bay, the encroachment of sand on the east side of the spit, and dredging projects within the channel or the bay. The plant's restricted range and limited number of individuals threaten it with stochastic extinction.

The Morro shoulderband snail (*Helminthoglypta walkeriana*) is a member of the land snail family Helminthoglyptidae. The Morro shoulderband snail was first described as *Helix walkeriana* by Hemphill (1911) based on collections made "near Morro, California". He also described a subspecies of *Helix walkeriana, Helix* var. *morroensis*, from "near San Luis Obispo City" based on sculptural features of the shell (Roth 1985). Field (1930) transferred the taxon to the genus *Helminthoglypta*, and Roth (1985) considers *morroensis* to be an infrasubspecific form not warranting nomenclatural recognition.

The Morro shoulderband snail is most closely related to the surf shoulderband (*Helminthoglypta fieldi* Pilsbry, 1930), which occurs in coastal dune habitats south of the San Luis Range to Point Arguello and is, therefore, disjunct from the Morro shoulderband snail. Shell features used to separate the two species include papillation over most of the body whorl, a more domed spire, and half or more of the umbilicus being covered by the apertural lip in the Morro shoulderband snail (Roth 1985).

The Morro shoulderband snail occurs with another helminthoglyptid snail, the Big Sur shoulderband (*Helminthoglypta umbilicata* Pilsbry, 1897). The more globose shape and incised spiral grooves distinguish the Morro shoulderband snail from this species (Roth 1985). The brown garden snail (*Helix aspersa*) also occurs with the Morro shoulderband snail, but the former has a marbled pattern on its shell that distinguishes it from the Morro shoulderband snail, which has a single narrow band.

The Morro shoulderband snail is restricted to sandy soils of coastal dune and coastal sage scrub communities near Morro Bay. The species has also been reported from San Luis Obispo (type locality for "*morroensis*") and 4.8 km (3 mi) south of Cayucos (Roth 1973) no specimens have been collected from those localities since 1946 (Roth 1985) Surveys by Roth (1985) resulted in the discovery of only six live Morro shoulderband snails, while empty shells were much more numerous. While cautioning that not enough data were available to make a more accurate estimate, Roth (1985) speculated that as few as several hundred individuals then existed in the remaining population of Morro shoulderband snails. Roth (malacological consultant, pers. comm., 1993) conducted a limited search for the snail in April 1992 and found no living individuals. However, Roth believed that even though no live snails were found, the limited nature of the survey along with the drought of the previous 4 years would preclude him from concluding the species was extinct (Roth, pers. comm., 1993)

Previous Federal Action

Federal government actions on three of the five plants began as a result of section 12 of the Endangered Species Act of 1973, which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94–51, was presented to Congress on January 9, 1975, and included *Arctostaphylos morroensis* as threatened and *Eriodictyon altissimum* and *Clarkia speciosa* ssp. *immaculata* as endangered. The Service published a notice in the July 1, 1975, **Federal Register** (40 FR 27823), of its acceptance of the report of the Smithsonian Institution as a petition within the context of section 4(c)(2) (petition provisions are now found in section 4(b)(3) of the Act) and its intention thereby to review the status of the plant taxa named therein The above three

taxa were included in the July 1, 1975, notice. On June 16, 1976, the Service published a proposal in the **Federal Register** (42 FR 24523) to determine approximately 1,700 vascular plant species to be endangered species pursuant to section 4 of the Act; *Eriodictyon altissimum* was included in this document.

General comments received in relation to the 1976 proposal were summarized in an April 26, 1978, **Federal Register** publication (43 FR 17909). The 1978 Amendments to the Endangered Species Act required that all proposals over 2 years old be withdrawn. A 1-year grace period was given to those proposals that would otherwise expire within one year of the passage of the 1978 amendments. In the December 10, 1979, **Federal Register** (44 FR 70796), the Service published a notice of withdrawal of the June 6, 1976, proposal, along with four other proposals that had expired.

The Service published an updated notice of review for plants on December 15, 1980 (45 FR 82480). This notice included *Arctostaphylos morroensis, Clarkia speciosa* ssp. *immaculata* and *Eriodictyon altissimum* as category 1 species and *Cirsium fontinale* var. *obispoense* as a category 2 species. Category 1 species are those for which the Service has on file substantial information on biological vulnerability and threats to support preparation of listing proposals, while category 2 species are those for which data in the Service's possession indicate listing is possibly appropriate, but for which substantial data on biological vulnerability and threats are not currently known or on file to support proposed rules. On November 28, 1983, the Service published in the **Federal Register** a supplement to the Notice of Review (48 FR 53640); the plant notice was again revised September 27, 1985 (50 FR 39526). *A. morroensis* and *E. altissimum* were included in both of these revisions as category 1 species; *Clarkia speciosa* ssp. *immaculata* and *Cirsium fontinale* var. *obispoense* were included as category 2 species. On February 21, 1990, (55 FR 6184) the plant notice was again revised, and *A. morroensis, Clarkia speciosa* ssp. *immaculata* and *E. altissimum* were all included as category 1 species, and *Cirsium fontinale* var. *obispoense* was included as a category 2 species.

Section 4(b)(3)(a) of the Endangered Species Act, as amended in 1982, requires the Secretary to make certain findings on pending petitions within 12 months of their receipt. Section 2(b)(1) of the 1982 amendments further requires that all petitions pending on October 13, 1982 be treated as having been newly submitted on that date. This was the case for *Arctostaphylos morroensis, Clarkia speciosa* ssp. *immaculata* and *Eriodictyon altissimum*, because the 1975 Smithsonian report had been accepted as a petition. In October of 1983, 1984, 1985, 1986, 1987, 1988, 1989, and 1990, the Service found that the petitioned listing of *A. morroensis, Clarkia speciosa* ssp. *immaculata* and *E. altissimum* was warranted but precluded by other higher priority listing actions. Publication of the proposed rule in the **Federal Register** on December 23, 1991 (56 FR 66400), constituted the final finding for the petitioned actions.

The portions of this rule concerning *Suaeda californica* are largely based on scientific and commercial information on the species, unpublished reports by Wayne Ferren, unpublished reports from the CDFG (1991), and information gathered from several botanists, including Mr. Dirk Walters and Mr. Malcolm McLeod.

A reevaluation of the existing data on the status of *Cirsium fontinale* var. *obispoense* and threats to its continued existence provided sufficient information to support proposing this species for listing as endangered.

The Service entered into a contract with the Sierra Club Foundation, San Francisco, California, to investigate the status of California land snails. A final report dated August 25, 1975, contained data indicating that several of the snails studied were either threatened or endangered species candidates. On April 28, 1976, the Service proposed endangered or threatened status for 32 land snails in the **Federal Register** (41 FR 17742); this proposal included the Morro shoulderband snail (under the common name "banded dune snail") as endangered. The proposed rulemaking that included proposed endangered status for the Morro shoulderband snail was withdrawn December 10, 1979, (44 FR 70796) because of the 1978 amendments to the Act, which required the withdrawal of proposals over 2 years old.

The Service undertook a status review of the mollusc in 1984, which resulted in the report by Roth (1985). Based on that information, the Morro shoulderband snail appeared as a category 1 species in the Animal Notices of Review of May 22, 1984 (40 FR 675); January 6, 1989 (54 FR 554); and November 21, 1991 (56 FR 58820).

On December 23, 1991, the Service published a proposed rule in the **Federal Register** (56 FR 66400) to list the five plants and the Morro shoulderband snail as endangered. In that proposed rule and associated notifications, all interested parties were requested to submit factual reports or information relevant to a final decision on the listing proposal. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. No requests for a public hearing were received. To allow for additional comment, the comment period was reopened from June 8 to July 8, 1992. Notice of reopening of the comment period was published in the **Federal Register** on June 8, 1992, (57 FR 24221) and, along with a summary of the proposal, in the San Luis Obispo County Telegram Tribune on June 17, 1992.

Summary of Comments and Recommendations

During the comment periods, the Service received written and oral comments from 13 parties. The CDFG, the California Department of Parks and Recreation (CDPR), The Nature Conservancy, the Center for Plant Conservation, and the California Native Plant Society were among the eight commenters expressing support for the listing proposal. Four commenters were neutral; three of these provided additional information on potential project impacts, and one expressed concern over the implications of listing for private landowners. One commenter initially was neutral, but apparently shifted to opposing the listing proposal. Results of additional surveys for the plants (Oyler, *in litt.*, 1992; CDFG 1991, LSA Associates 1992) and additional biological information that was submitted to the Service since publication of the proposal have been incorporated into this final rule.

Opposing comments and other comments questioning the rule have been organized into specific issues. The California Fish and Game Commission (Commission) was considering the State listing of *Arctostaphylos morroensis* during the same period covered by the Service's comment period. The Service obtained several documents directed to the Commission that included comments opposing the State listing of *A. morroensis*. Because these comments are germane both to the State and the Federal listing of this species, they have been incorporated into the issues. The Service's response to each issue is summarized below:

Issue 1: One commenter stated that the population estimate of 2,000 individuals for *Arctostaphylos morroensis* that appeared in the

proposal was too low and that the population is more likely closer to 150,000 individuals. Furthermore, this large population size makes the likelihood of imminent extinction a low probability.

Service Response: The Service acknowledges that the number of individuals of *Arctostaphylos morroensis* is much higher than the estimate that was available when the proposal was prepared. The Service agrees that because this species is a long-lived perennial, combined with the higher population estimates, the probability of imminent extinction is low. However, mapping by Mullany (1990) and others (LSA Associates 1992) indicates that *A. morroensis* currently occupies less than 365 ha (900 ac) of habitat. Of this, two thirds is in private ownership with no legal protection and where a number of proposed projects will further destroy and fragment the habitat. The remaining third is in public ownership, comprised primarily of stands with low densities of manzanita that may represent only 20 percent or less of the total individuals. However, the restricted range and narrow habitat requirements of *A. morroensis*, coupled with continuing alteration, destruction, and fragmentation of habitat, make it vulnerable to becoming endangered in the near future and, thus, meet the definition of "threatened." The Service, therefore, has determined that threatened status is more appropriate than endangered status and has made this change in the final rule.

Issue 2: One commenter estimated current manzanita habitat losses to development to be 63 percent of the "low productivity" habitat, 25 percent of the "moderate productivity" habitat, and only 9 percent of the "high productivity" habitat. Therefore, development has had a disproportionately low impact on *Arctostaphylos morroensis* and does not represent a trend toward imminent extinction.

Service Response: Even though most of the development has occurred within habitat supporting low densities of *Arctostaphylos morroensis*, the biological importance of this habitat to the species should not be dismissed. Development has fragmented remaining *A. morroensis* habitat in the northern and central portions of its range, leaving small pockets or individual shrubs on vacant lots and in back yards. The viability of these fragments, and their contribution toward maintaining viability of the species as a whole, is unknown. Furthermore, the effects of development in habitat with higher densities of *A. morroensis* may have been understated by the commenter, because the "productivity" of the habitat was calculated based on the distribution of Baywood fine sands within each slope class, rather than the actual distribution of *A. morroensis* within each slope class. One development has been built within an area that previously supported high density *A. morroensis* habitat. Two developments planned within adjacent habitat support intermediate to high densities of *A. morroensis*. These two developments could affect up to 60 ha (150 ac) of manzanita habitat.

In addition to direct removal of habitat, development has had secondary effects on quality of adjacent remaining habitat, such as fragmentation, deterioration of habitat due to increased recreational activity, and the introduction of non-native species. Although the Service agrees that the extinction of *A. morroensis* is not imminent (see Service Response 1 above), past development appears to be a major cause of past habitat loss, and pending development proposals represent significant potential losses and degradation of additional habitat.

Issue 3: One commenter believes that current trends to protect *Arctostaphylos morroensis* make listing unnecessary. These trends include tougher local land use regulations, greater protection of the plants in Montana de Oro State Park, and the future public acquisition of more habitat such as open space and more parklands.

Service Response: Although local land use regulations may have been strengthened, their primary purpose is not to protect *Arctostaphylos morroensis* or other sensitive species. For instance, current restrictions on building on slopes over a certain grade may reduce the number of units that can be constructed on a parcel over what may have been allowed previously. Constructing fewer units per parcel, however, does not ensure the integrity of any *Arctostaphylos morroensis* habitat that may have been spared on steeper, unbuildable slopes. Protection of *A. morroensis* habitat within Montana de Oro State Park accounts for only one-third of the acreage of habitat and only 20 percent of the number of individuals. Efforts to acquire additional habitat are currently underway for 37 ha (90 ac) of *A. morroensis* habitat. These efforts, however, are still in progress, and even if habitat is acquired, do not ensure that management and protection of this habitat will be effective in maintaining the long-term viability of *A. morroensis* at this location. The Service therefore concludes that current trends to protect *A. morroensis* habitat do not preclude the need to list the species.

Issue 4: One commenter stated that *Eucalyptus* poses no imminent threat of extinction to *Arctostaphylos morroensis*, because the acreage of *A. morroensis* habitat currently occupied by *Eucalyptus* is low, the rate of *Eucalyptus* spread appears slow, and removal programs are underway.

Service Response: The only *Eucalyptus* removal program the Service is aware of is that being conducted by Montana de Oro State Park. This effort has focused on removing *Eucalyptus* seedlings from outside the bounds of the original groves and not specifically from *Arctostaphylos morroensis* habitat. While the Park's efforts are to be commended, the acreage of *A. morroensis* habitat enhanced by these efforts is small. However, *Eucalyptus* is recognized as only one of several, and certainly not the largest, threats to the continued existence of *A. morroensis*.

Issue 5: One commenter stated that brushing (mechanical clearing) is an effective technique for regenerating senescent stands of *Arctostaphylos morroensis*. Therefore, the inability to maintain natural fire cycles within urban neighborhoods adjacent to manzanita stands could not be perceived as a threat.

Service Response: Some evidence shows that mechanical clearing may serve to scarify *Arctostaphylos morroensis* seed, a process that would typically be provided by natural fire cycles in wildland chaparral communities. However, regeneration of *A. morroensis* on mechanically cleared parcels has not been shown to achieve full restoration of ecosystem processes present within an intact chaparral community. The role of fire within chaparral communities may serve other purposes, such as nutrient cycling, that cannot be duplicated by mechanical clearing. Further research may indicate that mechanical clearing may be a tool in managing fragmented manzanita habitat within urban neighborhoods where risk associated with controlled burns is considered unacceptable. The intent of the Endangered Species Act, however, is to protect species and the natural habitats upon which they depend. The opportunity to maintain selected sites with mechanical clearing does not reduce the need to maintain habitat using natural ecosystem processes, such as controlled burns.

Issue 6: One commenter was concerned that the listing of *Eriodictyon altissimum* would limit his rights as a private property owner.

Service Response: Listing of *E. altissimum*, as well as the other species

in this rule, under the Endangered Species Act will trigger the protective measures under section 9 of the Act, prohibiting the collection, destruction, or damaging of these species on any area if it is in violation of any State law (see the Available Conservation Measures section of this rule for a complete discussion). In addition, the Act requires that Federal agencies insure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species, or destroy or adversely modify its critical habitat, if any is designated. Any activity on private land that requires Federal involvement (such as a section 404 permit under the Clean Water Act) and that may affect these species would have to be reviewed by the Service to ensure that the continued existence of the species would not be jeopardized. If the Service determines that an activity may jeopardize the continued existence of the species, the Service is required to provide reasonable and prudent alternatives to the applicant. These alternatives should accommodate the applicant, but avoid jeopardy to the species. In a non-jeopardy situation, the Service would provide recommendations, in the form of reasonable and prudent measures, which would allow the activity to proceed without jeopardizing the species existence.

Recovery planning for the species may include recommendations for land acquisition or easements involving private landowners. These efforts would be undertaken only with the cooperation of the landowner. In the majority of cases, presence of an endangered or threatened species does not preclude private landowners from utilizing their land in the manner originally intended.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Arctostaphylos morroensis* Wies. & Schreib. (Morro manzanita) be classified as threatened and *Cirsium fontinale* var. *obispoense* J. T. Howell (Chorro Creek bog thistle), *Clarkia speciosa* ssp. *immaculata* Lewis & Lewis (Pismo clarkia), *Eriodictyon altissimum* Wells (Indian Knob mountainbalm), *Suaeda californica* Wats. (California sea-blite), and the Morro shoulderband snail (*Helminthoglypta walkeriana*) should be classified as endangered species. Procedures found at Section 4 of the Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in Section 4(a)(1). These factors and their application to *Arctostaphylos morroensis* Wies. & Schreib. (Morro manzanita), *Cirsium fontinale* var. *obispoense* J. T. Howell (Chorro Creek bog thistle), *Clarkia speciosa* ssp. *immaculata* Lewis & Lewis (Pismo clarkia), *Eriodictyon altissimum* Wells (Indian Knob mountainbalm), *Suaeda californica* Wats. (California sea-blite), and the Morro shoulderband snail (*Helminthoglypta walkeriana*) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Arctostaphylos morroensis is scattered within coastal maritime chaparral and oak woodland communities, ranging from the northeast side of Morro Bay to the south end of Montana de Oro State Park—a distance of less than 16 km (10 mi). The distribution of *A. morroensis* around Morro Bay has been tied to the distribution of Baywood fine sands (ancient wind-blown beach sands) that are also habitat for the endangered Morro Bay kangaroo rat (*Dipodomys heermannii* ssp. *morroensis*). Approximately a third of *A. morroensis* habitat is owned and managed by the CDPR (Montana de Oro State Park) but is still subject to alteration. Groves of non-native *Eucalyptus* trees that were planted in the early 1900's have encroached on nearby stands of *A. morroensis* (Holland *et al.* 1990). The CDPR initiated a stand containment project in 1989, which removed seedling trees that were established beyond the perimeter of the original groves. Current efforts are focused upon removal within the Hazard Canyon riparian corridor. If the containment project is not maintained, however, new expansion of the *Eucalyptus* into *A. morroensis* habitat can be anticipated. Recent installment of a trans-Pacific telephone cable resulted in the removal of approximately 300 plants in Hazard Canyon within the boundaries of the Park (CDPR, *in litt.*, 1992).

With the exception of two parcels owned by CDFG, the remaining habitat for *Arctostaphylos morroensis* is in private ownership on lands that surround the communities of Morro Bay, Baywood Park, and Los Osos. Expansion of these communities has extirpated some *A. morroensis* habitat, and much of what remains is slated for residential development (LSA Associates 1990; Keil 1990; Holland 1990; San Luis Obispo County 1991) and sewage treatment ponds (Morro Group 1989).

Eriodictyon altissimum, like *Arctostaphylos morroensis*, is scattered within coastal maritime chaparral and oak woodland communities, primarily near Morro Bay. Five of six extant stands occur within several or more square kilometers (few square miles) of each other, from the south side of the community of Los Osos to the north end of Montana de Oro State Park. Each of these stands comprises less than 50 plants. The sixth and largest stand, comprised of 350 individuals, is found 24 km (15 mi) to the southeast on Indian Knob, between San Luis Obispo and Arroyo Grande. Two of the Morro Bay stands are on lands owned and managed by Montana de Oro State Park and co-occur with *A. morroensis* in Hazard Canyon. Careful planning prior to the recent installation of a trans-Pacific telephone cable avoided potential impacts to individuals of the mountainbalm (CDPR, *in litt.*, 1992).

Other stands in the Morro Bay area occur on private land threatened by residential development. One stand occurs on a parcel used by the community of Los Osos to evaporate sewage sludge and is being closely monitored by local botanists (Bittman 1985). Surface mining of tar sands was proposed for the Indian Knob area several years ago (Vanderwier 1987). Although the proposal is not currently being pursued, economic incentive may exist to do so in the future. The parcel is currently grazed by livestock. As with other members of this genus, *Eriodictyon altissimum* is thought to be adapted to ecologic disturbance, specifically to periodic fire within the chaparral community. Field botanists have noted that most stands of *E. altissimum* are mature to senescent in age and that appropriate management may be needed to revitalize the stands (Bittman 1985).

Cirsium fontinale var. *obispoense* is restricted to open seep areas in serpentine soil outcrops. It probably has never been abundant due to its narrow habitat requirements. Most of *C. fontinale* var. *obispoense* is distributed between Morro Bay and San Luis Obispo. One of the two largest populations is found on Pennington Creek, a tributary of Chorro Creek, on lands managed as a biological reserve by California Polytechnic University, San Luis Obispo. Despite the University's objective to maintain the reserve in its natural state, illegal grazing from an adjacent cattle allotment has occurred (V.L. Holland, California Polytechnic University, San Luis Obispo, pers. comm., 1991). The type locality for

Cirsium fontinale var *obispoense* was surveyed for the plant in 1986; no plants were found, and the population is presumed to be extirpated (Friedman 1987). The other large population is found near Laguna Lake in the upper Los Osos Valley watershed, on lands partially owned by the City of San Luis Obispo. This population has been subjected to cattle grazing. Nearby urbanization has resulted in increased recreational use and an increase in alien plant species. In 1991, the city fenced off a small portion of the habitat to remove grazing pressures on *C. fontinale* var. *obispoense* (Tina Hall, The Nature Conservancy, pers. comm., 1991). Five other small populations occur within 8 km (5 mi) of Laguna Lake. Three of these are remote enough that few human-induced threats currently exist, but the other two are on lands that are slated for development (Friedman 1987; Morro Group 1988). One disjunct population occurs along San Simeon Creek, approximately 48 km (30 mi) northwest of the Pennington Creek population. This population occurs on private lands that are grazed. Developments proposed for adjacent parcels may remove water from the San Simeon Creek watershed (San Luis Obispo County 1991). Since *Cirsium fontinale* var. *obispoense* depends on moisture from seeps, it would be threatened by any proposal to divert water from the watershed above the seeps.

Clarkia speciosa ssp. *immaculata* is restricted to pockets of dry sandy soils within chaparral and oak woodlands south of San Luis Obispo, between the town of Edna and the Nipomo Mesa area. All five extant populations are located on private lands. The most recent surveys revealed that the two largest populations, each supporting about 2,000 individuals, were subject to cattle grazing and to road grading where the plant occurs along roadsides (CDFG 1991). A third small population from the type locality consists of less than 100 individuals and is subject to the effects of roadside traffic, road grading and herbicide spraying. A fourth population was reduced to about 100 individuals by residential development. A fifth population was discovered in 1992 in the Nipomo Mesa area during construction of a sedimentation basin. About 25 percent of the 800 individuals comprising the population were destroyed during pre-construction grading (Oyler, *in litt.*, 1992). Of four other historical locations, two were extirpated by residential development, and two were extirpated by undetermined causes, most likely mowing and other secondary impacts associated with urban development (Myers 1987).

Suaeda californica is discontinuously distributed around the narrow upper intertidal zone of Morro Bay where it is concentrated in three stands. One stand is located on tidal flats within Morro Bay State Park. A second stand, consisting of only six plants, is located within Sweet Springs Marsh. The third population is located within Montana de Oro State Park. All three stands are threatened by recreational activity on the tidal flats and erosion from changing hydrologic conditions in the intertidal zone. Sedimentation of the Bay from the Los Osos Creek and Chorro Creek watersheds has altered the abundance and distribution of marsh habitat on the east side of the bay. Dredging of the Bay may alter subsurface currents and affect shoreline stability. The CDPR is currently developing a proposal to dredge the marina at Morro Bay State Park; this activity will likely result in the removal of a dozen individual plants (U.S. Fish and Wildlife Service 1993). *S. californica* was collected from a fourth location just north of Morro Bay but has not been seen there since 1929 (Wayne Ferren, pers. comm. 1991). The type locality, on Alameda Island in San Francisco Bay, has long since been altered by urbanization as has much of coastal marsh habitat along the central California coast.

The following discussion of habitat and range of the Morro shoulderband snail is summarized from the report by Roth (1985). The Morro shoulderband snail formerly occupied primarily coastal dune scrub habitat along approximately 8 km (5 mi) of dunes extending into Morro spit, at Baywood Park, San Luis Obispo, sites between Morro Bay and Cayucos and probably along Morro Bay in the vicinity of Cuesta-by-the Sea. The snail and its habitat have been eliminated by residential and other development from Baywood Park, Cuesta-by-the-Sea, San Luis Obispo, and the sites between Cayucos and Morro Bay. Evidence of living Morro shoulderband snails in the past decade has been found only at a few sites within 3 km (2 mi) of one another in coastal dune scrub habitat. This habitat has been degraded by off-road vehicle activity and maturation of the dune vegetation.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Overutilization is not currently known to be a factor for the five plants; but unrestricted collecting for scientific or horticultural purposes or excessive visits by individuals interested in seeing rare plants could result from increased publicity as a result of this final rule. The Morro shoulderband snail's extremely limited range and numbers and its taxonomic distinctness make it highly vulnerable to recreational or scientific collectors.

C. Disease or Predation

In efforts to control alien species of thistle, the San Luis Obispo County Agriculture Department introduced the seed-head weevil (*Rhinocyllus conicus*) to several sites in San Luis Obispo County in the early 1980's. Initial reports from field botanists indicated that the seed-head weevils were foraging upon *Cirsium fontinale* var. *obispoense* However, more recent observations indicate that since the length of the flowering season of the thistle far exceeds the egg-laying period of the weevil, predation probably accounts for only a small reduction in seed availability (Charles Turner, Agricultural Research Services, U.S. Dept. Agriculture, pers. comm., 1991). No data exist on the effects of disease or predation on the other plant taxa.

Livestock grazing is believed to have caused the extirpation of *Cirsium fontinale* var. *obispoense* at the type locality on Chorro Creek (Rocco 1981). Half of the eight extant sites are on private lands that are grazed. *Clarkia speciosa* ssp. *immaculata* has been subject to livestock grazing at two of the four extant locations. Unlike *C. fontinale* var. *obispoense*, however, observations of field botanists indicate that *Clarkia speciosa* ssp. *immaculata* may be able to sustain a certain amount of grazing by livestock (T Dunn, The Nature Conservancy, *in litt.* 1987).

During his survey for Morro shoulderband snails, Hill (1974) noted that many of the empty large subadult shells contained vacant sarcophagid fly puparia, which suggested to Roth (1985) that "mortality from parasitoid infestation often occurs before *H. walkeriana* reaches breeding condition" (Roth 1985). Roth (1985) also documented one snail that had been recently killed by a rodent

D. The Inadequacy of Existing Regulatory Mechanisms

Under the Native Plant Protection Act (chapter 1.5 section 1900 *et seq.* of the Fish and Game Code) and California Endangered Species Act (chapter 1.5 section 2050 *et seq.*), the California Fish and Game Commission has listed *Clarkia speciosa* ssp. *immaculata*, *Eriodictyon altissimum*, and *Cirsium fontinale* var. *obispoense* as endangered. Though both statutes prohibit the "take

of State-listed plants (chapter 1.5 section 1908 and section 2080), State law appears to exempt the taking of such plants via habitat modification or land use change by the landowner. After the CDFG notifies a landowner that a State-listed plant grows on his or her property State law requires only that the landowner notify the agency "at least 10 days in advance of changing the land use to allow salvage of such plant." (chapter 1.5 section 1913).

In 1991, the California Fish and Game Commission (Commission) was petitioned to list *Arctostaphylos morroensis* as a threatened species. However, the Commission decided that ecosystem-based regional planning efforts could provide adequate safeguards for the survival of *A. morroensis*. In 1993, while recognizing that "substantial losses to Morro Bay manzanita habitat have occurred, and that the long-term survival of Morro Bay manzanita remains precarious," the Commission made a finding that listing was not warranted. In contribution to the regional planning efforts, the California Coastal Conservancy granted funding to the Land Conservancy of San Luis Obispo County to develop conservation strategies for the State and federally endangered Morro Bay kangaroo rat, as well as sensitive species, including *A. morroensis*, in the Morro Bay area. The strategies are to be developed in conjunction with the CDFG, the CDPR, local and county planning agencies, and local landowners (Land Conservancy of San Luis Obispo 1993). Efforts to date have been hampered by a conflict in goals of the participating entities. Legally binding conservation measures that would afford protection to *A. morroensis* have yet to be developed.

The Morro shoulderband snail is not specifically protected under State or local law. However, State park policy for Montana de Oro State Park calls for management programs to be prepared and implemented to perpetuate this and other taxa of special concern. Collection of this species is prohibited on State Park land except by permit. This protection applies only to individuals and does not prevent the effects of indirect human disturbance, such as recreational activities, from harming this species and its habitat.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

The introduction and invasion by alien plants into coastal sage scrub and maritime chaparral communities has adversely affected native flora and fauna, including *Arctostaphylos morroensis* and the Morro shoulderband snail. Williams and Williams (1984) tracked changes in abundance and frequency of 16 taxa in a coastal dune scrub community over a 10-year period on the sand spit of Morro Bay. They observed that differences in successional patterns in wind, lee, and ridge habitats were correlated with wind conditions, stabilization of dunes over time, and seed dispersal strategies of certain taxa. At the same time, they noted that the alien *Mesembryanthemum chilense* (seafig) had increased in both wind and lee positions on the spit and suggested that over time, *M. chilense* would supplant native species throughout the dune system.

Another alien species, *Ehrharta calcina* (veldt grass), has spread to the Morro Bay region, probably from the area between Lompoc and the Nipomo Mesa, where it was planted to stabilize sandy soils (Smith 1976). *E. calcina* invades not only disturbed areas, such as vacant lots, road cuts, and utility corridors in the Morro Bay region, it is also becoming naturalized within native plant communities, including chaparral containing *Arctostaphylos morroensis* in Montana de Oro State Park (C. Rutherford, U.S. Fish and Wildlife Service, pers. obs., 1993). On one vacant lot, seedlings of *A. morroensis* appear to be competing favorably with *Ehrharta* (LSA Associates 1992). While *Ehrharta* more likely competes for resources with herbaceous species than with perennials such as *A. morroensis*, the long-term effects of this species on the dynamics of native communities are not understood.

Stands of *Arctostaphylos morroensis* within Montana de Oro State Park are being overtopped by spreading *Eucalyptus* plantations that were planted in the early 1900's. *A. morroensis* is not able to survive such encroachment, due to reduction in available soil moisture, increased shading, and the effects of growth-inhibiting terpenes that are released from the *Eucalyptus* (Holland *et al.* 1990). The General Plan for Montana de Oro State Park (CDPR 1988) calls for the removal of exotic species, including *Eucalyptus*, but a removal program has only been partially implemented.

As mentioned under Factor "A", *Cirsium fontinale* var. *obispoense* occurs in several areas grazed by livestock. Grazing and trampling by livestock, coupled with mesic to hydric conditions around seeps, favors growth of alien plants, once they have become established. Unlike alien thistle taxa, *C. fontinale* var. *obispoense* is probably not able to compete with other alien plants.

The Morro shoulderband snail may be experiencing competition from the brown garden snail (*Helix aspersa*). The brown garden snail, presumed to be an escapee from an adjacent golf course and housing development, has established feral populations on the spit of Morro Bay. Roth (1985) discussed several factors that may be the basis for such competition. While estivation sites and food preferences for the two snails differ, competition for shelter sites may limit the numbers of Morro shoulderband snails. The coastal dune scrub community within the survey area is mature to the point that lower limbs of the large older shrubs may be too far off the ground to offer good shelter. Roth (1985) found both snails occasionally using alien *M. chilense*, as well as pieces of particleboard for shelter sites, and suggested that more preferred shelter sites were unavailable. Increasing development surrounding the State Parks will increase threats from this and other exotic animals and plants that disperse from developed areas.

At least several Morro shoulderband snails have been killed as a result of controlled burning of coastal scrub that was carried out to improve habitat for the endangered Morro Bay kangaroo rat within Montana de Oro State Park. Park staff are aware of the presence of the snails, have conducted pre-burn searches for them, but have not detected any in the areas that have been burned since Roth's first reported fire-caused mortalities (Vince Cicero, Montana de Oro State Park, pers. comm. 1991). Drought and/or heat may have contributed to egg mortality in the Morro shoulderband snail (Roth 1985). Other snail taxa that occur within California's areas of Mediterranean climate copulate, oviposit, and undergo an active growth phase during the rainy season. Roth (1985) found intact but desiccated *Helminthoglypta* eggs "scattered in considerable numbers" within the survey area, though the species could not be determined. Roth (1985) suggested that this represented several years' accumulation of egg deposits whose viability may have been lowered by drought and/or heat conditions.

Several of the plants and the Morro shoulderband snail are also threatened with stochastic (i.e., random) extinction due to the small size and isolation of the remaining populations. The limited gene pool may depress reproductive vigor, or a single human-caused or natural environmental disturbance could destroy a significant percentage of the individuals of these species. Depressed seed viability has recently been documented by Holland *et al*

(1990) in some stands of *Arctostaphylos morroensis*. Annual plants, such as *Clarkia speciosa* ssp. *immaculata*, and short-lived perennial plants, such as *Cirsium fontinale* var. *obispoense*, are subject to wide fluctuations in population numbers from year to year. Such taxa may have difficulty in maintaining a viable population size after a series of poor seed production years. While *Suaeda californica* is a perennial plant, the low number of individuals and restricted range of the plant within the widely fluctuating hydrologic conditions in Morro Bay also subject it to stochastic extinction.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these species in determining to issue this final rule. These six taxa are vulnerable to one or more of the following threats: habitat destruction, residential development, road maintenance activities, competition from alien plants or the common garden snail, recreational activities, grazing, water diversions, dredging, and perhaps stochastic extinction. Based on the Service's evaluation of the status and threats facing these species, the preferred action is to list *Cirsium fontinale* var. *obispoense, Clarkia speciosa* ssp. *immaculata, Eriodictyon altissimum, Suaeda californica*, and the Morro shoulderband snail as endangered. Though population sizes for *Arctostaphylos morroensis* are larger than were known at the time of the proposal, the specific substrate requirements limit the amount of suitable habitat. Much of the historic habitat has already been destroyed, with over half of that remaining on private lands and lacking permanent protection or active management for the conservation of the species. The preferred action is to list *A. morroensis* as threatened. For the reasons discussed below, the Service is not proposing to designate critical habitat for these species at this time.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for these species. The Service's regulations (50 CFR 424.12(a)(1)) state that designation of critical habitat is not prudent when one or both of the following situations exist: (1) The species is imperiled by taking or other human activity, and identification of critical habitat can be expected to increase the degree of such threat to the species; or (2) such designation of critical habitat would not be beneficial to the species.

In the case of *Arctostaphylos morroensis, Cirsium fontinale* var. *obispoense, Clarkia speciosa* ssp. *immaculata, Eriodictyon altissimum, Suaeda californica*, and the Morro shoulderband snail, the second criterion is met. Most populations of these species are found on state or private lands where Federal involvement in land-use activities does not generally occur. Additional protection resulting from critical habitat designation is achieved through the section 7 consultation process. Since section 7 would not apply to land-use activities occurring within critical habitat, its designation would not appreciably benefit the species. Protection of these species' habitats will be addressed through the recovery process.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking and harm of the shoulderband snail and against certain activities involving listed plants are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

The U.S. Army Corps of Engineers (Corps) may become involved with *Arctostaphylos morroensis* through its permitting authority as described under section 404 of the Clean Water Act. By regulation, nationwide or individual permits cannot be issued where a federally listed endangered or threatened species would be affected by a proposed project without first completing formal consultation pursuant to section 7 of the Act. The proposal to dredge the marina at Morro Bay State Park is likely to involve the Corps. The Corps will also be involved with the removal of unexploded ordnance at Montana de Oro State Park, which may potentially affect habitat for *A. morroensis, Eriodictyon altissimum*, and the Morro shoulderband snail. Construction of new sewage treatment facilities are being contemplated by the communities surrounding Morro Bay. If any Federal funding or permits are required during the expansion or construction of new treatment facilities, those Federal agencies would also be subject to the requirements of section 7 of the Act. The range of the Morro Bay kangaroo rat, a federally listed endangered species, overlaps that of *A. morroensis* and the Morro shoulderband snail. Should the Service issue any permits under section 10(a)(1)(A) or 10(a)(1)(B) of the Act for activities related to the recovery of the Morro Bay kangaroo rat, the Service would be required to do an internal section 7 consultation to assess what potential adverse effects the permitting action would have on other listed species and to identify measures to avoid or minimize such impacts.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 for endangered plants and at 50 CFR 17.71 and 17.72 for threatened plants set forth a series of general prohibitions and exceptions that apply to all threatened or endangered plants. With respect to the four plant taxa being listed as endangered, all trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, would apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export; transport in interstate or foreign commerce in the course of a commercial activity; sell or offer for sale this species in interstate or foreign commerce; or to remove and reduce to

possession the species from areas under Federal jurisdiction; maliciously damage or destroy any such species on any area under Federal jurisdiction; or remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any State law or regulation or in the course of any violation of a State criminal trespass law

Arctostaphylos morroensis, herein being listed as threatened, would be subject to similar prohibitions (16 U.S.C. 1538 (a)(2)(E); 50 CFR 17.71). Seeds from cultivated specimens of threatened plant species are exempt from these prohibitions provided that a statement of "cultivated origin" appears on their containers. Certain exceptions apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62, 17.63, and 17.72 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered plant species under certain circumstances. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the U.S. Fish and Wildlife Service, Ecological Services, Endangered Species Permits, 911 NE. 11th Avenue, Portland, Oregon, 97232–4181 (Telephone 503/231–2063, Facsimile 503/231–6243).

It is the policy of the Service (59 FR 34272) to identify to the maximum extent practicable those activities that would or would not constitute a violation of section 9 of the Act at the time of listing. The intent of this policy is to increase public awareness of the effect of the listing on proposed and ongoing activities within a species' range. Nearly all the presently known locations for these five plants are on private lands. Collection, damage or destruction of these species on public lands is prohibited, although in appropriate cases a Federal endangered species permit may be issued to allow collection. Removal, cutting, digging up, damaging or destroying endangered plants on non-Federal lands would constitute a violation of section 9 if conducted in knowing violation of State law or regulations, including State criminal trespass law. The Service is not aware of any otherwise lawful activities being conducted or proposed by the public that will be affected by this listing and result in a violation of section 9

Permits also may be issued to carry out otherwise prohibited activities involving endangered wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17 22 and 17.23. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, for incidental take in connection with otherwise lawful activities, and economic hardship under certain circumstances.

The Act and implementing regulations found at 50 CFR 17.21 set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. With respect to the Morro shoulderband snail, these prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take (including harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or attempt any such conduct), import or export, transport in interstate or foreign commerce in the course of a commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

As indicated above, it is the policy of the Service (59 FR 34272) to identify to the maximum extent practicable those activities that would or would not constitute a violation of section 9 of the Act at the time of listing. The intent of this policy is to increase public awareness of the effect of this listing on proposed and ongoing activities within a species' range. During the public comment period inquiries were made as to the effect listing would have on development and private landowner activities. The Service believes that, based on the best available information, the following action will not result in a violation of section 9 with respect to the Morro shoulderband snail: momentary moving of individual snails out of danger (e.g., road, path).

Activities that the Service believes could potentially result in the take of the Morro shoulderband snail, include, but are not limited to, unauthorized collecting or capture of the species, except as noted above to momentarily move an individual out of harm's way; introduction of exotic species (e.g., other species of snails); unauthorized destruction or alteration of the species' habitat (e.g., dredging, filling, channelization, discharge of fill material, operation of any vehicles); violations of discharge or withdrawal permits; pesticide applications in violation of label restrictions; or other illegal discharges or dumping of toxic chemicals, silt, or other pollutants into the habitat supporting the species.

Other unauthorized activities not identified in the above two paragraphs will be reviewed on a case-by-case basis to determine if a violation of section 9 of the Act may have occurred with respect to this snail. The Service does not consider these lists to be exhaustive and provides them for the information of the public.

The Service anticipates that few trade permits would ever be sought or issued for any of the five plants or the Morro shoulderband snail.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

References Cited

A complete list of all references cited herein is available upon request from the Ventura Field Office (See **ADDRESSES** above).

Authors

The primary authors of this final rule are Constance Rutherford (plants), Ventura Field Office, U.S. Fish and Wildlife Service, 2140 Eastman Avenue, Suite 100, Ventura, California 93003 (805/644–1766) and Steven M. Chambers (snail), Albuquerque Regional Office, U.S. Fish and Wildlife Service, P.O. Box 1306, Albuquerque, New Mexico 87103 (505/766–3972).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

Regulations Promulgation

PART 17—[AMENDED]

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, is amended, as set forth below:

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500, unless otherwise noted.

2. Amend § 17.11(h) by adding the following, in alphabetical order under SNAILS, to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
•	•	•	•	•	•	•	
SNAILS							
•	•	•	•	•	•	•	
Snail, Morro shoulderband (=banded dune).	Helminthoglypta walkeriana	U.S.A. (CA)	NA	E	567	NA	NA
•	•	•	•	•	•	•	

3. Amend § 17.12(h) by adding the following, in alphabetical order under FLOWERING PLANTS, to the List of Endangered and Threatened Plants to read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
FLOWERING PLANTS							
•	•	•	•	•	•	•	
Arctostaphylos morroensis.	Morro manzanita	U.S.A. (CA)	Ericaceae	T	567	NA	NA
•	•	•	•	•	•	•	
Cirsium fontinale var. *obispoense.*	Chorro Creek bog thistle.	U.S.A. (CA)	Asteraceae	E	567	NA	NA
•	•	•	•	•	•	•	
Clarkia speciosa ssp. *immaculata.*	Pismo clarkia	U.S.A. (CA)	Onagraceae	E	567	NA	NA
•	•	•	•	•	•	•	
Eriodictyon altissimum.	Indian Knob mountainbalm.	U.S.A. (CA)	Hydrophyllaceae	E	567	NA	NA
•	•	•	•	•	•	•	
Suaeda californica	California sea-blite	U.S.A. (CA)	Chenopodiaceae	E	567	NA	NA
•	•	•	•	•	•	•	

Dated: November 14, 1994.

Mollie H. Beattie,

Director, U.S. Fish and Wildlife Service.

[FR Doc. 94-30860 Filed 12-14-94; 8:45 am]

BILLING CODE 4310-55-M